FOREST PRESERVATION IN VIRGINIA

Not until 1914 did the Virginia Legislature think the need for forest preservation urgent enough to create an organization for its protection. Such an office was established in connection with the Geological Survey at the University of Virginia. The Legislature made no appropriation for carrying on the work at that time, but provided that the expense should be borne by the University, as the State Forester was to be the professor of forestry there. This expense amounted to about $5,000 for the first year.

In 1915 the State Geological Commission, which is made up of the Governor of Virginia, the president of the University of Virginia, the president of the Virginia Polytechnic Institute, the superintendent of the Virginia Miliary Institute, and the ex-speaker of the House of Delegates, appointed Richard Chapin Jones, then professor of forestry at the University of Virginia, as State Forester. In March, 1915, he organized forestry work under the folowing heads:

1. Fire protection.
2. Lumbering Care.
3. Disease and Insect Protection.
4. Grazing protection.

At a meeting of the Legislature in 1916, an appropriation of $10,000 per year was made to provide for the continuation of the work over the whole state. Since the first appropriation the amount has been increased from time to time until now the sum is $18,000 per year.

The University still provides the Forester with office space, heat, and light at its own expense. Since 1916 it has provided a tract of land for the nursery and for experimental work.

The first and probably the most far-reaching phase of the work is that of fire protection. More posters, leaflets, folders, and bulletins are distributed dealing with this than with any other phase of the work. Beside the leaflet containing the forest laws of Virginia, there is one which deals with forest fire laws in detail.

Several millions of dollars are being sacrificed every year to forest fires, according to A. B. Hastings, Assistant State Forester. Of the one hundred counties in Virginia, only forty-eight are encouraging fire protection by making appropriations for a system of fire fighting crews. In most of these counties the organization is being carried on in co-operation with individuals. The plan has worked best where large tracts of forests are owned by corporations. It is necessary to have a well organized state and county force to protect small owners and to see that the laws are enforced in all parts of the state.

The co-operation plan is organized very simply. It consists of a head or chief warden who selects wardens for each county and each district. He is employed only during the late fall and winter months when the dry leaves are on the ground and in the spring before the green leaves come out. These are the periods when fires are most prevalent. He is paid by the Federal Government and the State Government jointly.

The local wardens post fire warnings, inspect clearing operations, and organize volunteer fire fighters.

The second phase of the Forester's work is lumbering care. The Forester and his assistants are responsible for the lumbering education of private owners and lumbering companies too. A lumbering education includes some knowledge of timber. Points to take into consideration are the best size of a tree for the products to be made from it, the best kind of tree to cut first so there will be space left for younger and more desirable trees, and the best time to cut this timber. The crew also goes into the forests and points out the best methods of cutting and logging so that there will be as little damage as possible to trees left standing. Wasteful and careless lumbering may injure the new growth of small trees. The sweetness of the rising sap attracts harmful insects to the raw wound of a tree. There are many insects which do not attack healthy trees as long as there are no diseased trees nearby, but do attack them when they are attracted to the forest by other trees.

A third phase of the work concerns grazing. It is not wise to allow stock to graze

in the woodlot. This is especially true during the spring months when there are tender shoots and new leaves on the trees. The stock not only eat the leaves within their reach, but tear and break great boughs in their attempts to reach higher leaves. They trample down the seedlings and break them off. Hogs eat the acorns and thus prevent the reproduction of oak trees. The continual trampling of the ground packs it hard and the moisture is not as easily absorbed. The timber must be regarded as a crop as well as the corn crop or wheat crop; no sensible farmer would turn the stock into his cornfield. If it is desirable to use a woodlot for shade for stock, then a portion of the less valuable forest should be fenced off for this purpose.

If Virginia is to make its preservation plan function, it must look out for the re-stocking of its forest and must start new forests as well as protect and care for those that are already here. This phase of the work also falls to the forester. For this purpose there is a nursery at Charlottesville where young trees of most profitable species are being grown. It might be well to list those most commonly found in Virginia:

The Pines	Ash
Norway Spruce	Dogwood
Bald Cypress	The gums
Black Locust	The maples
The Oaks	The cherries
Chestnut	Sycamore
Hickory	The poplars
Walnut	Mulberry
The Cedars	The Elms

There are many others not so commonly known.

The demand for these trees is increasing rapidly. Teachers and public officials call for them for shade trees to plant around schools and other public property. In a few years, if the campaign for planting shade trees along the state highways is successful, there will be still greater demand for them. The State Forester has prepared a small leaflet, "Planting Stock Available from the State Forest Nursery," which gives species, the number available, the size, and the price of the present supply. This bulletin may be had from the Forester's office.

An important means of educating the public to the need of the forest association is through the literature which is published. There are fire-warning posters, which are put up in all public places, stating fines and offering rewards for enforcement of the laws. There are bulletins giving surveys from some of the foremost counties. The Forester also publishes an administration report of the work done each year and the plans for its continuation.

Surveys now completed show the following proportion of woodland for certain counties:

Name of County	*Total Area*	*Percent in Woodland*
[1]Alexandria	18,408	30.6
[2]Buchanan	324,480	81.8
[3]Chesterfield	301,440	53.1
[4]Dickerson	212,460	84.0
[5]Nottoway	198,400	75.0
[6]Russell	316,440	40.0
[7]Tazewell	314,340	42.4

Under the direction of the State Forester, surveys are being made of each county of Virginia as rapidly as it is possible to make them with the limited funds available.

Of the total land in Virginia, 59.7% is still in woodland; and there is a fairly uniform distribution of this woodland over the state. All of these forests are not of uniform value, however. The virgin forests only amount to about 5%. There are those called "old field" forests that are seeded from nearby forests; and there are those which have been "culled," in which only the best timber has been cut and the inferior trees have been left. The greatest acreage, though, is occupied by forests which have been cut two or three times, often burned, and then left to grow up again.

For the benefit of those who may not understand the need for a preservation program the following paragraphs are added.

For a number of years the coal shortage has been one of the important topics before the public. It is evident that the present generation must be mindful not only of the present fuel supply, but of the future supply also.

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When the coal shortage made itself felt during the recent war the country had nothing to fall back on except its wood supply for fuel. Virginia ranked tenth in number of cords of fuel wood used and eighth in total value of this fuel. Only such states as New York, North Carolina, Georgia, Ohio, Missouri, Kentucky, Tennessee, and Alabama ranked above Virginia.

For fuel only such wood should be used as is of little value for other purposes, for instance, fallen trees, dead trees left standing, diseased or crooked trees, and those which are crowding out more valuable trees. Unskilled workmen are allowed to go into woodlots and to cut without discrimination trees that would be of great value later.

Although a coal shortage doesn't prevail now as it did in 1917 and 1918, during the war, we have no assurance that such a shortage will not occur again at any time. We should not wait until there is no more wood available for fuel before we begin to conserve.

Anywhere from 10 to 50 years is necessary for a full stand of wood. This seems a long time, but when we consider the decades that are required for the formation of coal, we see that it is only a short time. Then if such a little care is needed to produce a good crop of fuel wood, the needless waste is suicidal.

Fuel production is only one of the industries in which these bad habits are being practiced. The majority of logging industries of the state are carried on almost without thought for the future. The lumbering firms go into business expecting to stay only as long as business is profitable. They cut the trees that they can use and move on to another tract.

The first settlers of Virginia may be excused for their ruthless cutting because the forests were a menace to them and often meant death from the lurking Indians. Now that we know the value of the forests and no longer have anything to fear from them, there is no excuse for continuing the practice.

The public is slowly working up to face its responsibility, and steps are being taken to correct the wasteful consumption. At present the estimated annual cut of timber averages 64 board feet per acre of woodland. The actual growth annually is only about 38% of this cut. It is evident that the forests of our state cannot be maintained long at that rate.

Another need for forest protection is to be seen on the farm, where windbreaks are especially important. As a a rule, the woodlots are the only windbreaks. They not only protect the buildings when suitably located, but act as a shelter for stock and crops during windstorms. In the midwinter months even the leafless hardwoods tend to moderate the temperature and force off the cold winds. The effect on stock is very noticeable. When protected by a strip of woodland stock require less feeding. The benefit to small crops is not as important as to larger ones, such as orchards of fruit trees. During the spraying season and when the fruit is ready to pick, strong winds are a hinderance and they often blow off a great deal of fruit. Great loss is the result. When a strip of woodland protects the orchards, this loss is avoided.

Of all the land in Virginia that is not suitable for growing grain or fruit, practically none of it is too poor, too steep, or too rough to grow a profitable crop of wood either for fuel or for lumber. Such a crop on steep ground prevents gullying and helps to mellow the land by holding the moisture and forming a mulch of leaves.

More important than the above reasons for forest preservation is the effect of the water supply on the state. During the months of heaviest rainfall the mellow earth in forests holds the water and allows it to be absorbed instead of running off and taking with it the surface soil. These supplies act as reservoirs for the dry seasons of the year, giving it out gradually as needed to the surrounding springs and the streams. These facts make the need of a preservation program more apparent. The organization of the work is not the weak link in the chain. It is the fault of the citizens who can not be made to realize the need and do not raise funds enough to carry out the plan.

CLOTILDE RODES